



# UNITED STATES PATENT AND TRADEMARK OFFICE

mn

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/762,536

01/23/2004

Sang Woon Suh

1740-000044/US

4973

30593 7590 06/12/2007  
HARNESS, DICKEY & PIERCE, P.L.C.  
P.O. BOX 8910  
RESTON, VA 20195

EXAMINER

HO, THOMAS M

ART UNIT

PAPER NUMBER

2132

MAIL DATE

DELIVERY MODE

06/12/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/762,536

Applicant(s)

SUH ET AL.

Examiner

Thomas M. Ho

Art Unit

2132

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

  
RUPAL DHARIA  
SUPERVISORY PATENT EXAMINER

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 2/13/07.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Claims 1-48 are pending.

#### ***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. The claimed invention is directed to non-statutory subject matter. Claims 1-6 merely disclose a recording medium containing information. In and of itself, information stored on a recording medium is incapable of rendering a change in the system that is concrete, useful, and tangible. For this reason, claims 1-6 are non-statutory.

#### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 42 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 2132

It is uncertain in claim 42 whether Applicant refers to "key" information as being "important information" or "comprising an encryption or decryption key"

The recitation of a key appears nowhere in Applicant's claims.

However, with reference to its usage in the context, the Examiner has interpreted claim 42 as reciting an encryption key for purposes of examination.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 1 067 540A2, Suzuki and "How Computers Work" by Ron White.

In reference to claim 1:

Suzuki discloses a recording medium comprising:

copy protection indicating information indicating whether or not the recording medium contains copy protection information for use in encrypting/decrypting, wherein the copy protection indicating information and/or the copy protection information are recorded in wobbled patterns on an area of the recording medium,

Art Unit: 2132

where the copy protection indicating information is the discrimination data which indicates if the information is encrypted or decrypted, and the copy protection information simply the encryption of the digital content. Paragraphs [0017] & Figure 1

Suzuki fails to explicitly disclose that the copy protection indicating information and the copy protection information are recorded in wobbled patterns. However, Suzuki discloses that the discrimination data, and the CCI data are stored on DVDs in the form of watermark with the content. Paragraphs [0014- 0017] & [0025]

“How Computers Work” by Ron White pgs 160-163 discloses that DVDs store information in an array of wobbled pits and patterns. These patterns stores the logical ‘1’s and ‘0’ that represent the content the DVD stores.

It would have been obvious to one of ordinary skill in the art at the time of invention to use the wobbled bit and patterns to store the copy protection information stored on the DVD because that is the prevailing understanding of how DVDs in the art work.

In reference to claim 2:

Suzuki discloses the recording medium according to claim 1, wherein the data is reproduced utilizing the copy protection information if the recording medium contains copy protection information based on the copy protection indicating information, or the data is reproduced

directly without utilizing the copy protection information if the recording medium does not contain copy protection information based on the copy protecting indicating information,

where the data is reproduced using the copy protection information or the encrypted content because if the data is encrypted it will be decrypted. Paragraph [0032]

and where the data is reproduced directly without using the encrypted content if the data is not encrypted. [0035] where the data is reproduced if the discrimination data has a value of '0' indicating the data is not encrypted.

In reference to claim 3:

Suzuki discloses the recording medium according to claim 2, wherein the recording medium does not contain copy protection information for use in encrypting/decrypting the data if the copy protection indicating information indicates the recording medium does not contain copy protection information, where the copy protection indicating information is the discrimination data and if the copy protection indicating information indicates the data is not encrypted, then the digital content of the DVD does not contain the encrypted DVD content. [0017]

In reference to claim 4:

Suzuki discloses the recording medium according to claim 2, wherein the recording medium does not contain copy protection information for use in encrypting/decrypting the data if the copy protection indicating information indicates the recording medium contains copy protection

Art Unit: 2132

information, but a value of the copy protection information indicates that copy protection information is not present, where the copy protection indicating information would indicate that no encrypted content is present if the discrimination data is '0' (paragraph [0017]), and where the copy protection information is the encrypted content, and if the encrypted content is not present, then the data is not encrypted.

In reference to claim 5:

Suzuki discloses the recording medium according to claim 2, wherein the recording medium contains copy protection information for use in encrypting/decrypting the data when the copy protection indicating information indicates the recording medium contains copy protection information and a value of the copy protection information indicates that copy protection information is present, where the recording medium would contain copy protection information or "the encrypted digital content" if the copy protection indicating information, the discrimination bit, indicated that the content was encrypted. Paragraph [0017] & Figure 1

In reference to claim 6:

Suzuki discloses the recording medium according to claim 5. wherein decrypting the data utilizing the copy protection information precedes playback of the device, where decrypting the data precedes the reproduction of the content. (Figure 5) & paragraphs [0032] & [0033]

Claim 7 is rejected for the same reasons as claim 1.

In reference to claims 8,9:

Suzuki fails to explicitly disclose the method according to claim 7, wherein the copy protection indicating information is recorded in a lead-in area of the recording medium.

However those of ordinary skill in the art understand that the lead-in area of an optical disc is the region that is first read before the optical disc's content is played. (Figure 5) & paragraphs [0032]

A lead in area typically contains information pertinent to the usage session of the optical disc usage such as table of contents of the information, as well as encryption/scrambling information. (US patent 6021199) abstract and Figure 3.

It would have been obvious to one of ordinary skill in the art to store the copy protection indicating information because it would have been pertinent to the proper rendering and reproduction of the digital content of the optical disc and allowed the reproduction system to initialize the rendering process properly before other parts of the disc are read.

In reference to claim 10:

Suzuki fails to disclose the method according to claim 7, wherein the copy protection indicating information is recorded in an area more inward than a lead-in area of the recording medium.



Art Unit: 2132

The Examiner takes official notice that reading information from an optical disc typically starts at the most inward position of the disc.

For example, a optical disc reader begins reading the information by the disc by first processing the innermost track to gather the initialization information for the disc.

It would have been obvious to one of ordinary skill in the art at the time of invention to store the copy protection indicating information in a position more inward than the lead-in area of the recording medium, because the lead in area typically contains the table of contents of the CD.

If the table of contents of the CD may be encrypted, then it would necessary to first determine if the Table of contents is in fact encrypted by first reading the discrimination data or “copy protection indicating information” from an area that is more inward than the optical disc lead in.

In reference to claim 11:

Suzuki fails to disclose the method according to claim 10, wherein the area is a burst cutting area (BCA).

The Examiner takes official notice that storing encryption information in the BCA of an optical disc was well known at the time of invention.

Art Unit: 2132

For Example, US patent 6550009 discloses encryption information stored in the BCA. (Column 1, lines 1-10 et seq.)

US patent 6550009 (Column 7, lines 55-65) additionally discloses that the BCA of an optical disc is written specifically in such as way as to preclude falsification using laser irradiation, and is written to the disc differently than other DVD data.

It would have been obvious to one of ordinary skill in the art at the time of invention store the copy protection indicating information in the BCA of an optical disc because the information on the BCA is specially written using laser irradiation (Column 7, lines 55-65) and cannot easily be falsified, thereby adding to the security of Suzuki because it would be more difficult to falsify the discrimination bit information.

In reference to claim 12:

Suzuki discloses the method according to claim 7, wherein the copy protection indicating information and/or the copy protection information are recorded by a phase modulated method.

The Examiner takes official notice that recording in a DVD using a phase modulated method was well known to those of ordinary skill in the art at the time of invention. A phase modulation method of recording data allows for greater accuracy in tracking.

Art Unit: 2132

For example, US patent 6664526 discloses:

(117) Generally, a groove for acquiring a tracking error signal (push pull signal) is formed onto a recording disk such CD or DVD, and a wobble signal is recorded by bending the groove in a zigzag manner. This wobble signal is detected by a programmable BPF for various recording line velocities, and, therefrom, coded information such as that coded by frequency modulation or phase modulation is restored. Accordingly, even from a non-recorded disk, address information and disk information unique to the disk can be obtained. A method by which the above-mentioned information may be generated from a slit-like intermittent pit formed in a land (LPP: Land-Prepit signal) is also known.

(118) Especially, according to a wobble scheme by a phase modulation in DVD, it is possible to set the frequency thereof to very high, and, with regard to the scheme by LPP, it is possible to demodulate from a signal formed into a minute figure equivalent to a data length. Accordingly, highly precise position detection is possible with respect to pre-addresses given to the disk. Therefore, it becomes possible to connect and record on the terminus part of a last record at an accuracy of approximately  $\pm 0.5T$  by detecting and demodulating this preformat information, even in case where record data is added to follow the last record, or interrupting record and resuming is performed.

It would have been obvious to one of ordinary skill in the art at the time of invention to use a phase modulated method to record information to a DVD in order to allow for more accurate tracking and reading of the DVD data by other players.

Claim 13 is rejected for the same reasons as claim 1.

In reference to claim 14:

Suzuki discloses the method according to claim 13, further comprising reproducing the data utilizing the copy protection information if the recording medium contains copy protection information for use in encrypting/decrypting the data, or reproducing the data directly without utilizing the copy protection information, if the recording medium does not contain copy protection information for use in encrypting/decrypting the data, where the copy protection information is the encrypted digital content, and the encrypted digital content is used to reproduce the actual data content by its decryption, and where the digital content is reproduced directly if the optical disc is not encrypted. [0017] & Figure 1 & [0035]

In reference to claim 15:

Suzuki fails to disclose the method according to claim 14, wherein the reproducing includes detecting bi-phased modulated data and detecting the copy protection using the bi-phased modulated data if the recording medium contains copy protection information for use in encrypting/decrypting data based on the copy protection indicating information.

The Examiner takes official notice that reading information from optical data where such data is bi-phased modulated was well known to those of ordinary skill in the art at the time of invention.

For Example:

US 5689486: discloses that bi-phase modulation is used to reduce the deterioration of transferred signals.

TITLE:                                      Optical disc reproducing apparatus

(5)     There is well known an audio system comprising a CD player including a digital I/F (Interface) encoding circuit connected to a subsequent unit such as an amplifier including a demodulator. In this case, a non-compression-encoded linear PCM signal read out from a CD (Compact Disc) is transferred to the digital I/F encoding circuit which converts the PCM signal to self-synchronous type data as digital which is suitable for a data transmission by using a modulating method such as a bi-phase modulation or the like to reduce a deterioration of transferred signal, and then the self-synchronous type digital data is transferred to the demodulator of the amplifier which demodulates the data to the linear PCM signal. This demodulated digital signal is converted to an analog signal in the amplifier, and after that, a speaker connected to the amplifier is driven according to the analog signal.

Art Unit: 2132

It would have been obvious to one of ordinary skill in the art at the time of invention to detect the biphased modulated data read out from an optical disc in order to reduce the deterioration of the signal when reading from the DVD.

In reference to claim 16:

Suzuki discloses the method according to claim 14, wherein the reproducing includes (i) checking whether the copy protection indicating information is detected, (ii) reproducing data directly if the copy protection indicating information is not detected, and (iii) reproducing data utilizing the copy protection information if the copy protection information indicating information is detected, where the copy protection information is the information which indicates if the content is encrypted which determines whether the information is encrypted or not, and where this is checked first [0032] & Figure 5. If the encryption bit is detected, the encrypted content is used to produce the decrypted data, and if the value is not detected, the content may be decrypted directly. [0035]

In reference to claim 17:

Suzuki discloses the method according to claim 16, wherein the (iii) further includes (iii') determining whether the copy protection indicating information is active if the copy protection indicating information is detected, (iii'') reproducing the data directly if the copy protection indicating information is not active, and (iii''') detecting the copy protection information and

Art Unit: 2132

reproducing the data utilizing the detected copy protection information if the copy protection indicating information is active,

Where the copy protection indicating information is active if the discrimination bit is '1' and indicative of the content being encrypted, and where the data is reproduced directly if the discrimination bit is not active. [0035] and where the encrypted content is detected and used to reproduce the original content if the copy protection indicating information is active. (Figures 5,6) & [0032] – [0033]

In reference to claim 18:

Suzuki discloses the method according to claim 17, wherein in (iii'') said reproducing includes decrypting the data utilizing the copy protection information, where the data content is decrypted to reproduce the original content. [0027] & [0032] & Figures 5,6

Claim 19 is rejected for the same reasons as claim 2 incorporating claim 1 by reference.

Claim 20 is rejected for the same reasons as claim 3.

Claim 21 is rejected for the same reasons as claim 4.

Claim 22 is rejected for the same reasons as claim 5.

Claim 23 is rejected for the same reasons as claim 6.

Claim 24 is rejected for the same reasons as claim 1.

Claim 25 is rejected for the same reasons as claim 2.

Claim 26 is rejected for the same reasons as claim 3.

Claim 27 is rejected for the same reasons as claim 4.

Claim 28 is rejected for the same reasons as claim 5.

Claim 29 is rejected for the same reasons as claim 6.

Claim 30 is rejected for the same reasons as claim 1.

Claim 31 is rejected for the same reasons as claim 2.

Claim 32 is rejected for the same reasons as claim 2.

In reference to claim 33:

Suzuki discloses the apparatus according to claim 31, wherein said apparatus reproduces the data directly if the copy protection indicating information indicates the recording medium contains copy protection information, but a value of the copy protection information indicates that copy protection information is not present, where the copy protection indicating information is the digital bit that indicates if the content on the optical disc is encrypted or not. Figure 1 and paragraph [0017], and where the apparatus reproduces the data directly if the bit indicates the data is encrypted but the encrypted data is not present. [0035]

In reference to claim 34:

Suzuki discloses the apparatus according to claim 31, wherein said apparatus reproduces the data with the copy protection information when the copy protection information indicating information indicates the recording medium contains copy protection information and a value of the copy protection information indicates the copy protection information is present, where the



Art Unit: 2132

encrypted content or the copy protection information is used to derive the actual content, when the discrimination bit indicates the data is encrypted and the encrypted content is present.

Figures 5, 6 and paragraphs [0032] – [0035]

Claim 35 is rejected for the same reasons as claim 18.

In reference to claim 36:

Suzuki discloses an apparatus for reproducing data from a recording medium, comprising:

- A detector detecting signals recorded on the recording medium[0028], the signal including copy protection indicating information to determine whether or not the recording medium contains copy protection information for use in encrypting/decrypting the data, wherein the copy protection indicating information and/or the copy protection information are recorded in wobbled pattern on an area of the recording medium, where the copy protection information is the watermark which contains the discrimination bit, which determines whether the information is encrypted or not (Suzuki Figure 1) & (Suzuki [0017]), and where the information is recorded on a DVD in wobbled bits and patterns as understood in the art in “How Computers Work” by Ron White pgs 160-163
- A signal processor for playing the data utilizing the copy protection information if the recording medium contains copy protection information for use in encrypting/decrypting the data (Suzuki [0032]), or playing the data directly without utilizing the copy protection information, if the recording medium does not contain copy protection information for

use in decrypting the data based on the copy protection indicating information. (Suzuki [0035])

In reference to claim 37:

Suzuki [0035] discloses the apparatus according to claim 36, wherein said signal processor processes the data directly if the copy protection indicating information indicates the recording medium does not contain copy protection information.

In reference to claim 38:

Suzuki discloses the apparatus according to claim 36, wherein said signal processor processes the data directly if the copy protection indicating information indicates the recording medium contains copy protection information, but a value of the copy protection information indicates the copy protection information is not present. (Figure 5, Section S3 and [0035])

In reference to claim 39:

Suzuki discloses the apparatus according to claim 36, wherein said signal processor processes the data utilizing the copy protection information when the copy protection indicating information indicates the recording medium contains copy protection information and a value of the copy protection information indicates the copy protection information is present. (Figure 5 and [0032])

In reference to claim 40:

Art Unit: 2132

Suzuki discloses the apparatus according to claim 39, wherein said signal processor decrypts the data using the copy protection information, where the data content is decrypted to reproduce the original content. [0027] & [0032] & Figures 5,6

In reference to claim 41:

Suzuki discloses the apparatus according to claim 36, wherein the detector includes a detector unit detecting the copy protection indicating information and/or the copy protection information recorded in wobbled patterns, where the detector detects for the watermark which contains the discrimination data. [0028] – [0033]

In reference to claim 42:

Suzuki fails to disclose the recording medium according to claim 1, wherein the copy protection information is key information required for use in encrypting/decrypting the data.

The Examiner takes official notice that storing copy protection information as key information for use in encrypting/decrypting data was well known in the art at the time of invention.

It would have been obvious to one of ordinary skill in the art at the time of invention to have the copy protection information be key information required for use in encrypting and decrypting data in order to properly encrypt or decrypt data since encryption and decryption requires the usage of a cryptographic key as commonly understood in the art.

Claim 43 is rejected for the same reasons as claim 8.

Claim 44 is rejected for the same reasons as claim 9.

Claim 45 is rejected for the same reasons as claim 10.

Claim 46 is rejected for the same reasons as claim 11.

Claim 47 is rejected for the same reasons as claim 12.

Claim 48 is rejected for the same reasons as claim 1.

### *Conclusion*

8. The following art not relied upon is made of record:

- US patent 6519213 discloses a method of reading information from an optical disk.

9. Any inquiry concerning this communication from the examiner should be directed to Thomas M Ho whose telephone number is (571)272-3835. The examiner can normally be reached on M-F from 9:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on (571)272-3799.

The Examiner may also be reached through email through [Thomas.Ho6@uspto.gov](mailto:Thomas.Ho6@uspto.gov)

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)272-2100.

General Information/Receptionist	Telephone: 571-272-2100	Fax: 571-273-8300
Customer Service Representative	Telephone: 571-272-2100	Fax: 571-273-8300

Application/Control Number: 10/762,536  
Art Unit: 2132

Page 20

TMH

May 13<sup>th</sup>, 2007

*Thomas M. H.*

*Benjamin E. Lander*  
Examiner AU 2132

*Rupal Dharia*  
**RUPAL DHARIA**  
**SUPERVISORY PATENT EXAMINER**